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AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

AIR COMMAND STAFF COLLEGE

AY98

QUAILITY OF LIFE SURVEY

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Preface

The purpose of this research project was to identify those key issues which affected the AY98 Air Command and Staff College (ACSC) students perceptions about their Quality of Life (QOL) and make recommendations to the ACSC Commandant and staff for potential improvements. Recommendations were directed toward changing several facets of the ACSC program, fostering a better environment for student learning and development.

The research team consisted of four ACSC students. The team first conducted informal small group discussion sessions to identify the key issues and student expectations. The small group sessions greatly focused this QOL study and demonstrated how students' expectations affected their perceptions about the QOL at ACSC. From the small group discussion, the research team developed a survey instrument to collect more information. The team distributed the sample survey (pilot survey) to a small group of students for feedback. The team modified the survey instrument based on student comments and issued the final survey to the rest of the students. The analysis identified several aspects of the ACSC program which affected the students' perceptions about the QOL.

Although students conducted this study, LtCol Milewski and Maj Barrett from the ACSC Evaluation Division provided valuable information and assistance, especially with the statistical analysis of survey data.

Abstract

This research project concentrated on a study of ACSC student perceptions concerning Quality of Life (QOL). The research team used a survey instrument to collect data from the student population and to analyze students' perceptions of their QOL. The research team's thesis was: "the current ACSC program fails to provide a quality of life consistent with student expectations."

The research team conducted secondary research to select valid and reliable methodology for measuring ACSC QOL. Based on the research, the team selected the "Nominal Group Technique" (NGT) to identify the key QOL indicators and student perceptions. The team then prepared a survey instrument to determine the extent to which student needs are fulfilled. After analyzing the data, the research team identified several positive aspects and areas for improvement, and briefed the ACSC Commandant on the results and recommendations.

Chapter 1

Introduction

Thesis

The current Air Command and Staff College (ACSC) program fails to provide a quality of life consistent with student expectations. One of the many expectations students have when they arrive at ACSC is that they are in a more relaxed environment and “they will be able to share more time with family members.” Is this type of expectation valid? Several questions, like this one, need to be addressed to understand and affect, student Quality of Life (QOL). For example, how do students learn what is expected of them at ACSC? Do students feel ACSC is more work than expected and how does this type of expectation affect learning and development? This study of the ACSC QOL addressed these issues and provides recommendations on how to provide a consistent QOL conducive to learning. The purpose of this ACSC Quality of Life study was: 1) to assess the current perceptions of ACSC student QOL; 2) to identify both positive aspects and areas for improvement; 3) prepare a detailed briefing for the ACSC Commandant and his staff on the results of the study and make recommendations; and 4) to provide a reliable instrument for future measurement of ACSC student QOL.

Background and Significance of Problem

Over the past few years, the students' perceptions about the QOL at ACSC concerned the Commandant and his staff. Results of the end-of-year evaluations for annual year 1995, 1996 and 1997 indicated the demands of ACSC affected the student and family QOL. Student evaluation comments consistently showed a dissatisfaction with such things as ACSC workload, evaluation process, curriculum, and research program. To address this feedback, the ACSC Evaluation Division "recommended a research project that addressed issues and concerns of ACSC students that focuses on QOL metrics while attending ACSC."¹ As a result, the ACSC Commandant and his staff commissioned a team of four ACSC students (hereafter referenced as the research team) to conduct a QOL study identifying those top issues, both positive and negative which affect ACSC student perceptions of QOL. Additionally, the research team was to provide recommendations to the ACSC Commandant and staff. The primary goal of the study was to identify opportunities to positively impact the QOL for future attendees at ACSC, by creating a better environment for student learning and development.

Study Limitations

The research team identified a couple of potential limitations in this study. First, the team focused the study on the key issues the students identified in the small group discussions. The team randomly selected only two student seminars and conducted informal focus group discussions (brainstorming) to quickly identify those top issues for further evaluation. Although we believe the most of the focus groups identified the overarching issues, some different issues may have surfaced if all of the ACSC students

participated in the focus group discussions. The second limitation was the lack of formal statistical training and experience of the research team members.

Definitions and Assumptions

Quality of life can be defined in many different ways, and this is especially important to consider when conducting a study on issues affecting quality of life. For example, the International Association of Quality of Life Studies states “in quality of life research one often distinguishes between the subject and the objective quality of life. Subjective quality of life is about feeling good and being satisfied with things in general. Objective quality of life is about fulfilling that societal and cultural demands for material wealth, social status and physical well being”² In this study, the research team examined the subjective quality of life as it relates to the ACSC student.

For the purpose of this study, Quality of Life was defined as ‘any issue that ACSC students deem important; that is any issue that contributes to ACSC students’ satisfaction with their daily activities and their lives at ACSC’. Since people view QOL in different ways, students were instructed, throughout the study, that they should include those items that were important them at ACSC.

The research team made two key assumptions. The first assumption is that the composition of each ACSC seminar represents an adequate cross functional mix of ACSC students (i.e. various department representation and specialties, to include international officers). The second assumption is that the issues the research group identified during the small focus group discussions adequately focused and represented the overall issues/concerns of the students at ACSC.

Preview of the Argument

As stated earlier, the research team's thesis was 'the current ACSC program fails to provide a quality of life consistent with student expectations.' Is this a true picture or student perception? The following chapters discuss the overview of the current situation at ACSC, the process the research team used in the study to identify the key QOL issues and develop a valid survey, including overall methodologies, analysis of the survey results, and finally the recommendations on identified areas of improvement.

Notes

¹ Evaluation Department, Air Command and Staff College, Academic Year 1995, 1996, and 1997 ACSC Resident Course Supervisor and Graduate Survey Results, 1997

² George Fisk, "Reflections on Quality of Life Study Design," International Association of Quality of Life Studies – On Line News, 1 Dec 95, n.p.; on-line, Internet 11 Nov 97, available from <http://home2.inet.tele.dk/fclk/what/htm>.

Chapter 2

Quality of Life (QOL)

There are many library shelves stuffed with QOL stuff nobody uses. If we expect our studies to be useful we need to ask ourselves what decision makers need to know that they don't already know. Even in this era of downsizing and budget cutting, there are QOL studies that people want badly enough to pay for them.

—George Fisk, Georgia Power Professor of Marketing,
Emeritus, Emory University, Dec 1995
“Reflections on Quality of Life Study Design”

QOL Research

Prior to initiating the quality of life (QOL) study at the Air Command and Staff College (ACSC), the research team reviewed past ACSC and university studies and surveys addressing QOL issues. The purpose of this secondary research was to determine if other universities had similar concerns and specifically identify what they evaluated with respect to QOL.

ACSC 95/96 and 97 Course Survey

A review of the ACSC end of course surveys conducted for 1995/1996 and 1997 provided valuable insights into the QOL of ACSC students. Specifically, during the 1997 end of year evaluation, students were asked how “the demands of ACSC affect student and family quality of life?”¹ **Need specifics, add sample responses.**

College of William and Mary QOL Survey

The College of William and Mary (W&M) recently conducted a graduate student study to enable college leaders to “better understand the perceptions and needs of graduate students on campus.”² The survey identified some key areas of concern based on responses from a sample group of students. For example, academically, the students wanted increased course offerings. Also, less than half of the graduates were satisfied with their college social experiences. Recommendations included more interaction with other graduate programs and an improved Graduate Student Association. Finally, the study determined communication between students and the administration required improvement. The type of study the researchers conducted at W&M indicates a strong interest among universities to improve student QOL and enhance the learning environment.

Arizona State University—Study on University Life

Arizona State University (ASU) recently conducted a study on the range of issues that affect the QOL within the university. First, the ASU study focused on the student experience beyond the classroom. This study stated “the focus must be on the continued development of a learning organization that is increasing responsive to student and community needs.”³ It was apparent from this study the university was interested in creating a “university life” that was “organized, structured, designed operated, and integrated to allow...teaching, research, and community service to be performed well.”⁴ Additionally, ASU was interested in an informal aspect of university life, including “how the university helped create a culture conducive to learning and personal development.” Ultimately, this study identified the principles of “collaboration”, “accessibility”, and

“better understanding of student needs” which could enhance the learning environment. In essence, this study indicated collaboration must be improved to include such things as mentoring, peer tutoring, and a solid base for professional development of faculty, staff, and graduate students. It also indicated that students must be supported by the technology that provides the links to the community (accessibility). Finally, the study suggested the university develop a tracking system allowing faculty and staff to better understand the backgrounds, movement, and needs of students. The group which conducted this study was driven by the belief the university of the 21st century would be different and that changes were necessary due to the value the university placed on the individual.

Arizona State University–Graduate School Orientation

ASU also conducted research into the value of orientation programs for their graduate schools. Of interest, this study showed graduate students from Bowling Green State University were impressed with the “extremely strong orientation program” offered by the school and it made students feel “someone truly cares for them.”⁵ This research paper showed a well produced orientation program helped graduate students adjust to a fast pace and often times frustrating schedule. This particular paper concluded, based on analysis from various orientation programs, “specific orientation programs that introduced students to areas such as research, teaching, and the library have been successful.”⁶

Air Force Issues—Quality of Life

In today's military, there is a lot of interest in the QOL of service members. During a recent interview, the Secretary of Defense, William Cohen stated that he had the same sense of mission about improving the QOL for military people as did his predecessor, William Perry. Cohen stated that QOL for the troops "obviously has to be one of the top priorities of the Pentagon." The types of issues concerning Cohen included: "What can we do to improve the quality of life? Is it housing? Is it medical care? Is it TRICARE? What is it that we need (to do) to reassure you that your commitment to service is being adequately rewarded?" Cohen added that "We can have all the great equipment we're trying to design and develop, but if we don't have the kind of people who, number one, are recruited to come into the military and number two, are retained, then we will not have the most effective forces in the world. So quality of life is the top priority for me."⁷

Within the Air Force, military members QOL is a hot topic. During a discussion about the purpose of an Air Force "white paper" on QOL, Col. Whit Taylor, Chief of the Air Force Quality of Life Office stated the white paper is a "marketing effort to prove to Air Force people that the leadership cares about their welfare." Further, Lt. Gen. Michael McGinty, the Deputy Chief of Staff for Personnel, stated the white paper "shows to a variety of audiences that taking care of people is 'Job 1.'"⁸

Life Satisfaction Among Iranian and American Graduate Students

In an article published in *Counseling Psychology Quarterly*, a comparison survey of Iranian and American students attending several universities in California concluded "both Iranians and Americans perceptions of life satisfaction correlated significantly with perception of competence, social network, and hopes for the future."⁹ This study focused

on the different perceptions among student groups that came from varying cultures. Although both groups faced the same types of stress related directly to graduate school, they faced different stresses away from the school environment. For example, Iranian students reported having a greater availability of social network resources compared to American students. However, American students felt better about the level of competence, defined as "sets of skills, particularly social skills, that enable a better interaction and satisfaction with family, friends and acquaintances."¹⁰, than the Iranian students

These studies helped the research team identify potential areas of interests affecting not only the international officers attending ACSC, but also those from differing military cultures brought together to learn in an Air Force environment. With a general understanding of other QOL research, the team reviewed the current ACSC environment.

Notes

¹ Evaluation Department, Air Command and Staff College, Academic Year 1995, 1996, and 1997 ACSC Resident Course Supervisor and Graduate Survey Results, 1997, page XXX.

² College of William and Mary Graduate School of Business, *Graduate Quality of Life at the College of William and Mary*. (Quality of Life Project Research Team, College of William and Mary, VA 29Apr 97)

³ Arizona State University, *The Concept of University Life*, July 30, 1996, on-line Internet, 18 Nov 97, Available from <http://www.asu.edu/president/unc/university/report>.

⁴ Ibid., n.p.

⁵ Shannon Duffy and Professor Robert Fenske, "Graduate School Orientation," Arizona State University, 23 Dec 96, on-line Internet, 18 Nov 97, available from <http://www.asu.edu/coe/faculty/fenske/papers/gradsd.htm>.

⁶ Ibid., n.p

⁷ Editorial, *Air Force Times*, 6 Oct 97, 31

⁸ Editorial, *Air Force Time*, 2 Feb 97

⁹ "Life Satisfaction Among Iranian and American Graduate Students," *Counseling Psychology Quarterly*, 1 Sep 92, 3 pages; on-line Internet, 13 Nov 97, available from <http://www.epnet.com/bin/epwsatch/submit>.

¹⁰ Ibid.

Chapter 3

Current ACSC Environment

Overview of ACSC and Academic/Curriculum

ACSC offers a variety of courses and topics geared toward educating “officers to lead in developing, advancing, and applying air and space power for the future global challenges.”¹. This program is challenging and expects students to expand both personally and professionally. The following is a list of the current AY98 courses:

List of Courses/Programs

1. War and Conflict (WC)
2. War Theory (TH)
3. Strategic Environment (SE)
4. Operational Forces (OF)
5. Conflict Resolution (CR)
6. Joint Operations (JO)
7. Air and Space Operations (AS)
8. Joint Warrior (JW) (Tandem Challenge)
9. Leadership and Command (LC)
10. Force 2025 (FC)
11. Research/Electives

Grading and Student Evaluation. The current ACSC grading/evaluation system is based on a 4.0 (A-F) scale. Students receive grades for each course except Force 2025. The possible grades are A, A-, B, B-, C, C-, D, and F. Examination formats include but

are not limited to essay, short answer, individual or group briefing, or a combination of two or more.

Student performance is based on the "whole person" concept. Performance is measured in terms of professionalism, seminar and division leadership, and academic grades including research. Students within each seminar compete for the four available Top Performer (TP) ratings in each course. At the end of the ACSC school year, the ACSC Commandant and staff select ten percent of the students as distinguished graduates. To be eligible for consideration as distinguished graduate, students must excel in both leadership and academics and must equal or exceed the mean number of TP ratings awarded.²

ACSC Handbook Information and Welcome Package

Welcome Package. In March/April 1997, the ACSC staff mailed a detailed welcome package, including information specific to ACSC, to all incoming students. This package provided an overview of the ACSC mission, goals, and curriculum and a variety other topics, such as social activities, ACSC sports program, leave policy, and computer support information. It also provided information on PCS orders, Active Duty Service Commitment Statement information, key phone numbers, and reporting and in-processing procedures. The welcome package identified the in-processing time for students and provided an checklist containing the information the student would need to bring to the initial ACSC in-processing.

Student Orientation Handbook. During orientation, the students received an ACSC handbook which provided additional insight on what to expect during the ten month course. This handbook was designed to be a "one-stop quick reference guide for

the students, faculty and staff, and covers a broad range of programs and policies that affect most everyone at the college.”³ The handbook covered academics, the evaluation program, technology, and miscellaneous administrative policies and information.

ACSC Logistic Support

The welcome package and student handbook discussed several issues concerning logistical support. The following excerpts were chosen for further discussion based on issues raised in the ACSC QOL survey.

Classroom Size/Setup

Students are assigned to one of 44 seminar rooms. There are 13 to 14 students assigned to each seminar. Each seminar room contains tables and chairs, a computer display system, and two coat closets. The size of these rooms is limited based on the amount and type of furniture contained in the seminar room. Although there is limited space during class discussion, this space becomes even more limited during open book tests.

Computers/E-mail/Internet Access

Every ACSC student receives a Pentium Notebook computer. The student handbook emphasizes the notebook computers are keys to success at ACSC. Each computer has the standard Beyond Mail email package and productivity software (Word, Powerpoint, Exel, Toolbook, and Internet Explorer). The current ACSC computer network allows students access to e-mail and the internet from the seminar rooms, but does not provide the students access from their homes.

Supplies/Services

During the year, each seminar (13-14 people) is provided one ream of paper each month, as well as a limited supply of basic office needs (i.e. pencil sharpener, hole punch, etc...) School policy dictates more paper would just add to "copier abuse." Each seminar is also issued a printer toner cartridge every five months. The new cartridge is provided in January prior to the seminar mix. Students are required to supply their own writing paper, pens/pencils, staples, paper clips etc.

This section provided a brief overview of the current environment of ACSC. The next two chapters will detail the research team's QOL study process and set the stage for recommendations to improve the current environment.

Notes

¹ *Air Command and Staff College-ACSC Handbook Academic Year 1998*, ACSC, 31 July 1997

² Ibid., p.13

³ Ibid., pg. 1

Chapter 4

ACSC Key QOL Indicators

Many nations now monitor quality of life through social indicators and national surveys. And individuals plan their lives based on their personal perceptions of quality of life.

—Ed Diener

Dept. of Psychology, University of Illinois.
“The Study of Quality of Life”

Key Indicators Research

During the development of key ACSC quality of life (QOL) indicators, the research team reviewed effective idea-generation strategies. The team examined processes used by previous research groups and determined the Nominal Group Technique (NGT) and Delphi Technique required further evaluation. The following paragraphs discuss these techniques and provide a summary of the NGT process, which the team chose to identify the key QOL indicators.

Idea Generation Strategies

The NGT and Delphi Technique are problem-solving/idea-generating strategies. Andre L Delbecq and Andrew H. Van de Ven developed the NGT in 1968. Norman C. Dalkey and his associates at the RAND Corporation developed the Delphi Technique in 1967. NGT and the Delphi Technique are “special-purpose, structured techniques useful

for situations where individual judgements must be tapped and combined to arrive at decisions which cannot be calculated by one person.”¹

The NGT and the Delphi Technique are similar. Both rely on independent individual work for idea generation. The NGT involves groups, while the Delphi Technique uses isolated and typically anonymous individuals. In both techniques, researchers pool individual judgements. In the NGT, a design and monitoring team collects and pools the judgements of respondents in a round-robin procedure and generates a feedback report. Both NGT and the Delphi Technique allow for “an idea-evaluation/clarification stage, followed by a mathematical voting procedure to rank order individual judgements.”²

The research team elected the NGT process since our research indicated NGT groups generate slightly more ideas than Delphi Technique groups. In addition, while the Delphi Technique requires the least amount of time for participants, the calendar time required to obtain judgements from respondents takes significantly longer than NGT meetings.³ The research team felt this additional time would severely inhibit their to complete the ACSC QOL Survey within the required timeframe.

The research team conducted additional research into the use and definition of the NGT process aiding their understanding. For example, Air Force Handbook 90-502, *The Quality Approach*, defines NGT as a “structured method to generate and prioritize a list. It uses the priorities of each group member to discover the overall group priorities.”⁴ In addition, this technique “assumes the more ideas generated, the greater likelihood superior ideas will emerge.”⁵ The NGT is a variation of small-group discussion methods. One important note, this process prevents the “domination of discussion by a single person, encourages the more passive persons to participate, and results in a set of

prioritized solutions, recommendations, or ideas.”⁶ Because NGT reduces the pressure on individuals, research shows under some conditions, it can be more effective in generating ideas than if the group members are allowed to interact as in a typical brainstorming session.”⁷

Some studies indicate researchers should consider the group size and group mix when conducting an NGT process. It is interesting to note, however, some sources do not consider it necessary to spend significant energy getting a randomly selected or “representative” group of students. For example, one NGT process article indicated it did not matter if researchers encouraged participation by buying lunch for participants because participants seemed to fairly represent the views of the class.⁸

ACSC NGT Process Summary

The research team used the NGT process to brainstorm ideas and identify the ACSC student’s key QOL indicators. The team developed the ACSC QOL survey instrument based on the ideas identified in the NGT sessions.

The team selected a morning and afternoon seminar to participate in the ACSC NGT sessions. Secondary research sources’ optimal NGT groups range from 5 to 12 people.⁹ The group size in the two ACSC NGT sessions was 10 and 8 students, respectively. Each seminar represented a good cross-section of the ACSC student population. The ACSC faculty assign seminars ensuring the full spectrum of military services and specialties, as well as civilians and international officers are represent.

Appendix xx outlines the NGT process the research team used in the ACSC QOL study. The research team based the ACSC NGT process steps on those used in the *Graduate Quality of Life at The College of William & Mary (W&M)* study. Additional

NGT research supported the steps used in the W&M study. For example, the steps identified on a NGT web page matched those in the W&M study, with only minor variations.¹⁰ The steps used in the ACSC NGT process were:

- Step 1: Introduction, Statement of Problem, and Process Description/Clarification
- Step 2: Silent Generation of Ideas in Writing
- Step 3: Round Robin Recording of Ideas
- Step 4: Discussion, Clarification, and Categorization/Classification of Ideas
- Step 5: Prioritization/Ranking of Categorizations/Classifications Based on Voting
- Step 6: Conclusion and Process Review

Initially, the research team handed out a paper identifying the NGT purpose and the importance of the obtained information. The team explained they would use the NGT results to generate a QOL survey for ACSC students.

The team collected ideas using a structured round table discussion and then grouped the ideas into categories. Next, the participants prioritized the categories from most to least important. After both meetings, the research team analyzed the prioritized list using statistical measurements. Secondary research on measurement techniques identified the three common measures of “central tendency” in survey research as arithmetic mean, median, and mode. The research team selected the arithmetic mean and median as the methods of ranking the NGT categories. An analysis of the mode measurement showed that this measurement concentrated “on the most common case rather than taking into account all cases in a distribution.” Therefore, although the team determined the mode, it carried little weight in the analysis.

The two groups’ perceptions of ACSC were similar. The top three categories in the NGT were ranked as follows:

1. ACSC Workload/Curriculum
2. ACSC Support
3. ACSC Faculty/Student Interaction/Relations

The fourth, fifth, and sixth categories were different for each NGT session.

Session #1 (Afternoon Seminar)

- 4) Family Issues
- 5) Maxwell Support
- 6) Housing

Session #2 (Morning Seminar)

- 4) Parking
- 5) ACSC Other (Research Sports)
- 6) Assignments

The research team developed questions addressing all identified categories and included them in the overall ACSC QOL survey. The next section addresses the background on conducting surveys, as well as, the ACSC QOL survey instrument.

Notes

¹ Andre L. Delbecq, Andrew H. Van de Ven, and David H. Gustafson, *Group Techniques for Program Planning: A Guide to Nominal Group and Delphi Processes* (Glenview, IL: Scott, Foresman and Company, 1975)

² Ibid., XX

³ Ibid., 30

⁴ Air Force Handbook 90-502, *The Quality Approach*, 1996

⁵ Kathleen Knoll, *Decision Making Techniques*, Undated, n.p., on-line Internet 12 Dec 97, available from University of Texas at Austin, http://www.cs.tcd.ie/dalgeo/sism/knoll_virtual_teams/technique.html.

⁶ "Nominal Group Technique," The New England Regional Leadership Program through The Center of Rural Studies, undated, n.p.; on-line Internet, 27 Oct 97, available from <http://crs.uvm.edu/gopher/nerl/group/a/meet/Exercise7/a.html>.

⁷ "Nominal Group Technique," University of Brighton, undated, n.p.; on-line Internet, 27 Oct 97, available from <http://www.dipoli.hut.fi/org/TechNet/org/eurocinet/tool18/html>.

⁸ "The Nominal Group Technique," undated, n.p.; on-line Internet, **Date**, available from http://info.tei.uq.edu.au/tei/gi/module_xot/nominal_gp.html.

⁹ Untitled, n.p.; on-line Internet, available from <http://www.systema.com/tqmttools/nominal.html>.

¹⁰ NGT, undated, n.p., on-line Internet, **Date**, available from <http://128.143.238.20/services/CSA/nominal/html>.

Chapter 5

Survey Methodology

Survey Process Research

Background

The technique of gathering information through direct contact with individuals has a long history. The ancient empires of Egypt and Rome used periodic censuses as a basis for tax rates, military conscription, and other administrative decisions. It was not until the eighteenth century, however, people began using large-scale surveys as an organized way of studying social problems. British reformer John Howard surveyed the effects of prison life on inmates in the 1770's. Frederic LaPlay, a nineteenth century French economist, studied income and expenditures among Europeans, using surveys, as a way of rational social planning. We can trace the use of the comprehensive multipurpose survey, we know today, to English statistician Charles Booth. His 17 volumes, *Life and Labor of the People of London*, was a massive study of poverty and human misery in the slums. He thought gathering complete and accurate data on the problem was the first step in producing change.¹

The growth of surveys and other types of social research in the twentieth century is closely tied to a heightened emphasis upon the values of knowledge and rationality

Modern man wishes to deal with situations, in which he is an player, by developing plans based on solid information. Although this ideal is often unrealized, the value placed on "Getting the facts" is very much a part of contemporary culture. The survey was increasingly seen as a helpful method of collecting information on socially relevant topics.²

In the thirties and forties, several groups within the US government developed the combination of techniques identified in current survey research. The Department of Agriculture studied attitudes and behavior using area sampling. The government monitored civilian morale during WWII, and the Works Progress Administration reviewed unemployment. The Works review led to the Census Bureau's current population survey. Political polls began to appear in the 1930's and some newspapers published such polls as the Gallup Organization and the Crossley. Economists, sociologists, political scientists and others around the world, gather information on public opinion for policy decisions using today's surveys..³

The *Sample Survey: Theory and Practice* suggests researchers consider six criteria prior to undertaking a survey. First, **appropriateness of the survey to the objectives of the research**. The researcher should determine if the survey will produce the data needed to answer the study's question or hypotheses. Second, the **accuracy of measurement?** This is attained through an objective portrayal of the true situation under study. Four factors can influence accuracy, these are: quantification or the availability of reliable and valid empirical indicators which allows for objective comparison; replicability (the survey can be repeated in a different or same setting and get basically the same results); qualitative depth or the greater the range of data the better the

accuracy; and control over observer effects (if the presence of the observer negatively influences the responses). Third, **generalizability of the results**. Is the sample group itself is representative of the population about which conclusions are sought? Fourth, **explanatory power**. Surveys are more suitable for analyzing causes in depth. They are designed to go beyond asking the “who” or “what” and answer the “why” as well. Fifth, **administrative convenience**. Will the survey provide accuracy, generalizability, and explanatory power with low cost, rapid speed , and minimum management demands. And sixth, **avoidance of ethical and political problems**. This is normally tied to surveys collecting personal data. The researchers should put procedures in place protecting participants from privacy and confidentiality violations.⁴

A sample survey is an appropriate and useful means of gathering information when the goals of the research call for quantitative data, when the information sought is reasonably specific and familiar to the respondents, and when the researcher has considerable prior knowledge of particular problems and the range of responses likely to emerge.⁵ The purpose of a sample survey is to “obtain information from a few respondents in order to describe the characteristics of hundreds.”⁶ The greatest single advantage of a well-designed sample survey is “its results can be generalized to a larger population within known limits of error.”⁷

Survey Development and Execution

After conducting the Nominal Group Technique (NGT), the research team developed a survey instrument based on NGT focus group inputs. The team focused on those top six categories identified. The team broke the ACSC survey process into two phases. In the first phase, the team developed a pilot survey (appendix XX) and issued the survey to

a select number of students. The purpose of the pilot survey was to identify any potential concerns with the survey instrument. In the second phase, the team updated the pilot survey based on suggestions and issued the updated new survey to 550 students. The overall objective was to identify the ACSC students' feelings about those factors which are important to them, and determine how well those needs are met under the current program. The following paragraphs discuss each of the phases in more detail.

Pilot Survey

On December 19, 1997, the study group issued a pilot survey to two seminars at ACSC. The purpose of the pilot survey was to test the survey instrument and make corrections as necessary prior to issuing the final survey to ACSC students.

The research team provided a pilot survey to twenty (20) ACSC students and requested feedback on the survey's length, its quality and clarity of questions, and the general applicability to measuring the quality of life at ACSC. Overall, the survey was very well received and took an average of approximately twenty minutes to complete. The students identify some specific problem areas in the survey and the research group revised the survey accordingly.

Feedback on the pilot survey helped the research group develop a survey that was a better tool to measure QOL expectation and satisfaction within the ACSC program. For example, student feedback identified a need for better survey directions up front to explain the survey's intent. Also, some students requested a definition of "quality of life" and clarity on what weight should be given to ACSC's affect on family members.

A few questions required minor changes to clarify what was being asked. For example, students suggested the question "How many hours each week did you *expect* to

spend on academics while at ACSC?" be rewritten to specify whether the hours were for at home, in class, or total. The question was rewritten as follows, "How many hours *total* did you *except* to spend on academics while at ACSC?"

The student's recommend a few minor changes in the survey's format to make it more consistent throughout, i.e., make all the questions "Circle your response..." rather than filling in the circle for some questions. Students also felt there was a need to add a "N/A" response to the questions dealing with dependents, etc. for those who were single or geographically separated bachelors.

The student's, almost unanimously, felt the entire "Satisfaction With Your Life Here and In General" section, except for the "Communications" portion, should be removed from the survey. They felt it was irrelevant and too personal. It was determined that this section would not be included in the final survey. The remaining suggested changes were minor in scope.

After conducting a brief analysis of the pilot survey questions, some question areas were adjusted or expanded. For example, under Academic/Curriculum students made comments about the experience of instructors and their rank. Questions addressing these areas were added to the final survey in the appropriate section under "Quality of Instructor." Also, to prevent confusion on the definition of quality of life, a brief definition (as defined in Chapter 1, Definitions and Assumptions) of quality of life was placed on the front cover of the survey instrument.

Final Survey

On January 6, 1998, the research team issued 550 surveys to the student body through the ACSC Operation Officers and Seminar Leaders. Although the ACSC 1998

class has just over 600 students, the research team did not issue the survey to those students that participated in the NGT process or the pilot survey. Students were tasked to complete the survey by Friday, January 9, 1998. In all, 454 survey's were completed accounting for a rating of 82% of the survey's issued.

Subsequent to collecting all the issued survey's, the research team developed the data base to generate measurable statistics. The next section of this report provides the detailed analysis of the data collected.

Notes

¹ Andy B. Anderson, Peter H. Ross, and James D. Wright, *Handbook of Survey Research*, (New York, Academic Press, 1983), 2

² Ibid., 2,3

³ Ibid., 3,4,5

⁴ Linnger, Charles A. and Donald P. Warnick. *The Sample Survey: Theory and Practice*. (New York: McGraw – Hill, 1975),7,8

⁵ Ibid., 9

⁶ Don A. Dillman and Priscilla Salant, *How to Conduct Your Own Survey*, (New York: John Wiley and Sons, Inc., 1994), 4

⁷ Ibid., 11

Chapter 6

Data Analysis Summary

Data Analysis Research

In this section, we discuss the statistical processes and terms we used in the analysis of our survey. We used the statistical analysis system, SPSS and statistics text books to determine sample size required for our survey and the frequency, mean, mode, median, and correlation of the survey inputs. SPSS is a comprehensive system for statistical analysis and data management to analyzing data, generate descriptive statistics and complex statistical analyses, and generate charts, plots of distributions and trends.¹

The sample size is the number of elements in the sample. The larger the sample size, the smaller the standard area, and level uncertainty.² In our survey, the sample size was 454 out of a total population of 601.

As the first step of the data entry/analysis portion of the research study, the research team identified in SPSS, all of the elements (name and description), and the valid inputs. The research team gave a value of “99” for no response. For yes and no questions, a 0 represented No and a 1 represented Yes. For comment sections, a 0 meant the student did not make a comment, and 1 meant the student did enter a comment.

Once we entered all of the survey results in the system, we used the frequency, mean, mode, and median statistics functions to identify where the majority of the

students' answers fell. To explain these functions we will use the example series of 13 values: 3,3,4,4,4,5,5,6,6,7,8,8,9.

Frequency denotes the number of times or percentage a given value was chosen. In the example, 3 was chosen two times, 4 was chosen three times etc. The arithmetic mean is equal to the average of all of the values of a series, that is, the sum of the series divided by the number of elements in the series.³⁴ The mean of the example measurements is 5.54 (sum 72 divided by 13 elements). The median of a series is defined as the middle measurement, if there is one, once the elements of the series are arranged in ascending order.⁵ Since there are 13 numbers in our example series, the median would be the 7th value, or 5. The mode of a series of measurements is the one which occurs the most. In our example series, the mode is 4.⁶

Correlation and regression are also useful statistical functions in data analysis to help identify relationships between elements. The correlation coefficient is the measurement of the degree of relationship and can have any value from -1 to 0 to 1.⁷ If the correlation coefficient is 0, it indicates there is no relationship between the variables. The closer the coefficient is to the extreme values (-1, or 1) the stronger the relationship between the variables. A negative correlation indicates a negative relationship in which every time one variable increases, the other variable decreases and every time one variable decreases, the other variable increases. A positive correlation coefficient indicates a positive relationship in which, every time one variable increases, the other variable also increases and every time one variable decreases, the other variable decreases. Existence of a correlation however, does not necessarily mean the variables are related in a direct

and meaningful way nor does not necessarily indicate causality. Further examination of the data is required to determine possible causality.

The correlation analysis we performed on our survey results indicated there were many possible relationships between the elements. We reviewed the inputs and comments to identify the most significant and direct relationships and possible causality. The detailed analysis of the survey results follows in the next section.

Results of Analysis

Executive Summary of Overall Study

Summary of Academic/Curriculum Analysis

Summary of Logistics Support Analysis

Summary of Local Facilities and Opportunities Analysis

Summary of General (Miscellaneous Issues) Analysis

Summary of Social Analysis

Summary of Demographic Analysis

Notes

¹ *SPSS Base 7.5 for Windows, Users Guide*, Chicago, Illinois: SPSS Inc, 1997, iii, 1

² Aczel, Amir D., *Complete Business Statistics, Second Edition*, Burr Ridge , Illinois: 1993, Irwin, 220

³ *SPSS Base 7.5 for Windows, Users Guide*, Chicago, Illinois: SPSS Inc, 1997, 16

⁴ Ibid,28

⁵ Ibid., 23

⁶ Ibid., 23

⁷ Aczel, Amir D., *Complete Business Statistics, Second Edition*, Burr Ridge , Illinois: 1993, Irwin, 430

Chapter 7

Findings and Recommendations

Findings

Based on the analysis of survey results, the following areas were considered as not meeting the expectations of students attending ACSC and affecting the quality of student life.

Academic/Curriculum

Students were unsatisfied with reading levels, TP/DG programs and the grading process. Students were satisfied with the course curriculum content, however some expectations were such that students expected ACSC to be more leadership versus staff content. Overall, students were satisfied with the workload levels and length of day and were spending the amount of time that they expected too on ACSC studies. As a final note, some ACSC students were unsatisfied with the lack of availability of lecturer slides prior to presentations

Logistic Support

Students were unsatisfied with the logistical support in several areas. First, computers were a concern for many students and students felt better systems or software were needed. Secondly, students were unsatisfied with the current policy on supplies

(toner and paper). Third, students commented that the classroom (seminar room) were too small for fourteen students.

Maxwell and Local Area Facilities

Overall, students were satisfied with the facilities on Maxwell and the surrounding area. For example, most students were not dissatisfied with the housing, parking, and healthcare availability. Students were very satisfied with the AU library.

General

Students were satisfied with family/personal time, assignment process, and treatment of students by faculty.

Social

Students were satisfied with the social portion (interaction) of ACSC. Students were generally neutral about the seminar mix and some commented that they did not want a mix. Students were satisfied with and suggested more interaction within the Commander's Speaker series. Current event discussions and interface with Air War College were enjoyed by students.

Recommendations

Academic/Curriculum. There are three areas of recommendation under this category. First, the ACSC curriculum readings need to be reduced and/or evaluated for relevancy. Student comprehension would increase with reduced readings and more discussion in class of assigned readings. One suggestion would be to combine certain courses like War and Conflict and War Theory, or expand War Theory to one or two lessons per day. Secondly, the TP and DG program need to be enhanced to better gauge

student leadership and evaluation. One suggestion would be better advertisement in orientation material sent to students prior to arrival. Also, the DG program could be enhanced through a more objective testing policy. Finally, the grading process needs to be adjusted from a more subjective to a objective testing. For example, a three part test should be used on each course that include a multiple choice, a short essay and a long essay (2-3 pages). This last essay could be used as an extra credit to give students a chance to make more points toward a DG ranking. In addition to these recommendations, based on student comments, research days should be kept for research days and more electives should be offered.

Logistic Support. Students should be given access to the ACSC Net from their residence. Also, ACSC should provide students with a CD-ROM on their computers as well as ensure students have the most up to date software approved by the Air Force (i.e. Microsoft Mail). The current policy on supplies should be changed to allow students more freedom and control. For example, toner and paper should be provided by the school more regularly and controlled by the student population (i.e. Additional Seminar Duty). Finally, ACSC should do a better job of ensuring lecturer slides are available prior to each presentation.

Maxwell and Local Area Facilities. No specific recommendations. However, some comments from students showed that there was some need to improve the sponsorship package to include more information on such areas as housing, local area, course material etc..

General. No recommendations. The only comment or suggestion would be to increase Commandant Speakers Program.

Social. No recommendations. The only comment or suggestion would be to increase the amount of social activities with ACSC.

Sponsor packages and ACSC Student Handbook. The research team considered this information as the key to setting student expectations prior to arrival to ACSC. Because these documents are the first to hit incoming students, it is felt that it could be more extensive and cover a variety of topics to support information providing during the first week of orientation. For example, more emphasis should be made on the ACSC workload demand. According to former ACSC students who attended ACSC in the past, their expectations seemed to be one of "having a lot of time for family." Although, the course schedule breaks classes into morning or afternoon session and students spend on average approximately 4 hours each day in class, students spend a large amount of their home time reading and conducting research. Additionally, this package provided very little information on housing in the Montgomery area. This issue seemed to be of importance during the survey of ACSC students during this project.

Although this product seemed to be more detailed than the ACSC Welcome package, there were some areas that were vague and lacking detail. For example, an additional section on the "academic workload" would better prepare students on ACSC expectations. This type of section could include the amount and type of reading, a summary on testing procedures and essay formats, followed by a brief discussion on the need to provide both graded and ungraded briefings.

This student handbook is well prepared and complimented information in the welcome package. Perhaps a better course of action would be to provide this orientation handbook along with, or consolidated with the welcome package handbook.

Administrative Milestones and Remarks

The planned time line of this study was initially set as follows:

Date	Activity
17 Oct 97	Formalized Procedures for NGT Process
31 Oct 97	NGT Process Complete
12 Nov 97	Annotated Bibliography to Faculty Research Advisor (FRA)
14 Nov 97	Secondary research on survey type, sample size and question development
5 Dec 97	Draft pilot survey complete
19 Dec 97	Pilot survey process complete and survey revised
14 Jan 98	Research Outline to FRA
15 Jan 98	Final survey complete
18 Feb 98	Data input, secondary research on statistics and initial research draft complete
25 Mar 98	Final research paper submitted

After conducting this study, it was determined that if a similar project was necessary some adjustments would be necessary to the time line schedule to allow for unforeseen circumstances. For example, the draft pilot survey took place during the same week of a major test (Operational Forces). Although there did not seem to be any concern over the validity of the pilot survey results, better timing would prevent any conflict with tests. An earlier date would have been best. Also, data entry consumed approximately 50 man-hours of effort from the research team. Had the team known this up front, the survey instrument would have been accomplished prior to the school Christmas break. Data entry was key to obtaining valid statistical information. More time should have been allotted for data inputs.

In all, the research team spent a total of XX hours working on the various aspects of this project. The most time consuming, but most valuable effort was data entry

Chapter 8

Conclusion

QOL Study

The purpose of this study was to determine the key QOL problematic area associated with students attending ACSC in residence. After conducting a survey of attending students and analyzing the survey it was determined.

Bibliography

Primary Sources

- ACSC Evaluation Department. *Academic Year 1995, 1996, and 1997 ACSC Resident Course Supervisor and Graduate Survey Results*. Maxwell AFB, AL.: ACSC, 1997.
- "The Concept of 'University Life'." *Report to University of the Next Century Task Forces*, Arizona State University, July 30, 1996. On-line Internet, 18 Nov 97. Available from <http://www.asu.edu/president/unc/university/report>.
- Duffy, Shannon and Professor Robert Fenske. *Graduate School Orientation*. Arizona State University, 23 Dec 96. On-line Internet, 18 Nov 97. Available from <http://www.asu.edu/coe/faculty/fenske/papers/gradsd.htm>.
- Editorial, Air Force Times*, 6 October 1997, 39.
- Fisk, George. *Reflections on Quality of Life Study Design*. International Association for Quality of Life Studies—On Line News, 1 Dec 95. On-line Internet, 11 Nov 97. Available from <http://home2.inet.tele.dk/fclt/what/htm>.
- "Life Satisfaction Among Iranian and American Graduate Students." *Counseling Psychology Quarterly*, September 01, 1992. On-line Internet, 13 Nov 97, Available from <http://www.epnet.com/bin/epwsatch/submit>.
- Navy Personal Research and Development Center. *Navy Quality of Life Survey, 1997*. San Diego, CA, 1997.
- Quality of Life Project Research Team. *Graduate Quality of Life at the College of William and Mary*. Williamsburg, VA: College of William and Mary, 29 Apr 97.
- Rice, Robert W. *Organizational Work and the Overall Quality of Life*. Amherst, NY, 1984
- Smith, Leslie. "Back Talk." *Air Force Times*, 6 October 1997, 62.

Secondary Sources

- Aczel, Amir D., *Complete Business Statistics, Second Edition*. Burr Ridge , Illinois: Irwin, 1993.
- Air Force Quality Institute. *The Quality Approach, AF Handbook 90-502*. Maxwell AFB, AL: AF Quality Institute, 1996.
- Anderson, Andy B., and Peter H. Ross, and James D. Wright. *Handbook of Survey Research*. New York: Academic Press, 1983.
- Bracburn, Norman M. and Seymour Sudman. *Asking Questions, A Practical Guide to Questionnaire Design*. San Francisco: Jossey-Bass Inc., Publications, 1982.
- Converse, Joan M. and Stanley Presser. *Survey Questions, Handcrafting the Standardized Questionnaire*. Beverly Hills, CA: Sage Publications, Inc., 1986.

- Dillman, Don A. and Priscilla Salant. *How to Conduct Your Own Survey*. New York: John Wiley and Sons, Inc., 1994.
- Delbecq, Andre L., Andrew H. Van de Ven and David H. Gustafson, *Group Techniques for Program Planning: A Guide to Nominal Group and Delphi Processes*. Glenview, IL: Scott, Foresman and Company, 1975.
- Dooley, David. *Social Research Methods*. Englewood Cliff, NJ: Prentice Hald, 1990.
- Fowler, Floyd J. Jr. *Improving Survey Questions*. Thousand Oaks, CA: Sage Publications, 1995.
- Hoel, Paul G. *Elementary Statistics*, 3rd Edition, Wiley Series in Probability and Mathematical Statistics. New York: John Wiley & Sons, Inc, 1971.
- Kalton, Graham. *Introduction to Survey Sampling*. Beverly Hills, CA: Sage Publications, 1983.
- Knoll, Kathleen. *Decision Making Techniques*. University of Texas at Austin, Unknown Date, no pagination (n.p.). On-line Internet, October 14, 1997. Available from http://www.cs.tcd.ie/dalgeo/sism/knoll_virtual_teams/technique.html.
- Linnger, Charles A. and Donald P. Warnick. *The Sample Survey: Theory and Practice*. New York: McGraw – Hill, 1975.
- Lars Lyberg et al., *Survey Measurement and Process Quality*. New York: John Wiley and Sons, Inc., 1997.
- Mangione, Thomas W. *Mail Surveys Improving the Quality*. Thomas Oaks, CA: Sage Publications, Inc., 1995.
- Nominal Group Technique*. The New England Regional Leadership Program through The Center for Rural Studies, Unknown Date, University of Vermont, n.p. On-line Internet, October 14, 1997, Available from <http://crs.uvm.edu/gopher/nerl/group/a/meet/Exercise/a.html>.
- Nominal Group Technique*. Unknown Author, Date and Publisher, n.p. On-line Internet, October 15, 1997, Available from <http://128.143.238.20/services/CSA/nominal.html>.
- The Nominal Group Technique*, Unknown Author, Date and Publisher, n.p. On-line Internet, 15 Oct 97, Available from http://info.tei.uq.edu.au/tei/gi/module_xot/nominal_gp.html.
- Nominal Group Technique*. Unknown Author and Date, University of Brighton, n.p. On-line Internet, 15 Oct 97, Available from <http://www.dipoli.hut.fi/org/TechNet/org/eurocinet/tool18.html>.
- Presser, Stanley and Howard Schuman. *Questions and Answers in Attitude Surveys*. New York, NY: Academic Press, Inc., 1981.
- SPSS Base 7.5 for Windows, Users Guide*. Chicago, Illinois: SPSS Inc, 1997.
- Untitled, Unknown Author, Date, and Publisher, n.p. On-line Internet, October 14, 1997, Available from <http://www.sytsma.com/tqmttools/nominal.html>.

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